



THE DATASHEET OF ZHCS400TC



40V SURFACE MOUNT SCHOTTKY BARRIER DIODE

Product Summary

- $V_R = 40V$
- $I_F = 0.40A$
- $I_R = 40\mu A$

Description and Applications

This compact SOD323 packaged Schottky diode offers users an excellent performance combination comprising high current operation, extremely low leakage and low forward voltage ensuring suitability for applications requiring efficient operation at higher temperatures (above 85°C) see Operational efficiency chart on page 4.

- DC – DC Converters
- Mobile Telecomms
- PCMCIA

Features and Benefits

- Low V_F
- High Current Capability ($I_F = 0.40A$)
- Miniature Surface Mount Package
- Low V_F , fast switching Schottky
- Package thermally rated to 150°C
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: SOD323
- Case Material: UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Band
- Terminals: Finish - Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.004 grams (approximate)

SOD323



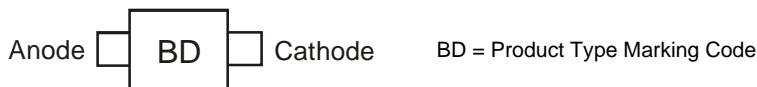
Top View

Ordering Information (Note 1)

Device	Packaging	Shipping
ZHCS400TA	SOD323	3,000/Tape & Reel
ZHCS400TC	SOD323	10,000/Tape & Reel

Notes: 1. For Packaging Details, go to our website at <http://www.diodes.com>.

Marking Information

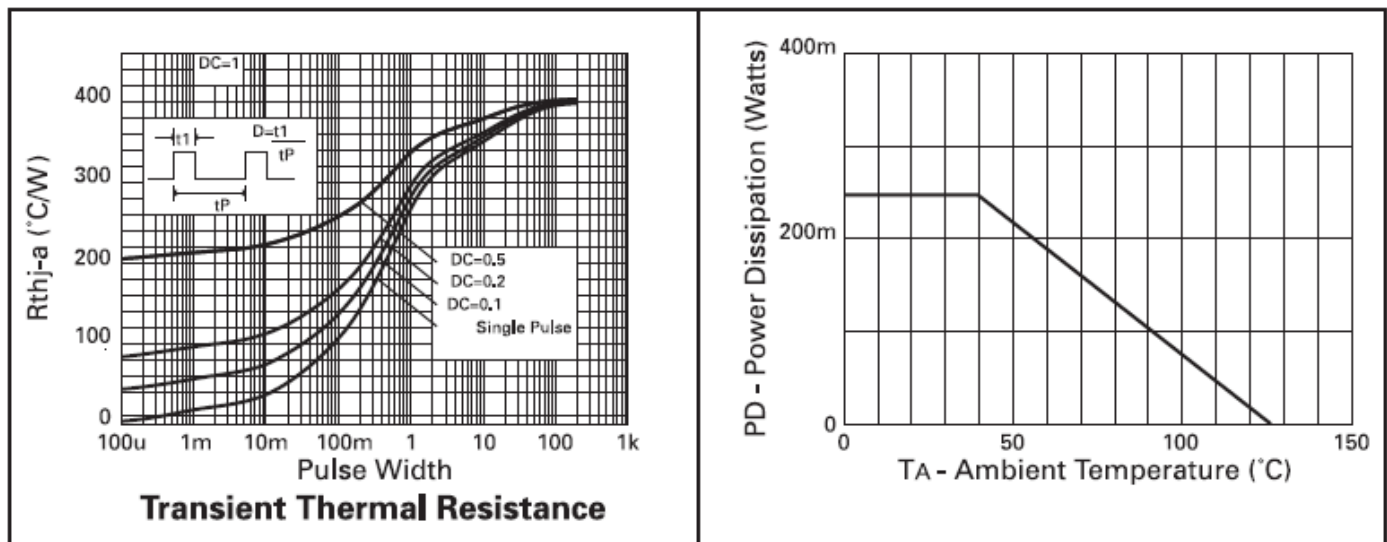


Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Units	
Continuous Reverse Voltage	V_R	40	V	
Continuous Forward Current	I_F	400	mA	
Forward Voltage @ $I_F = 400\text{mA}$	V_F	500	mV	
Average Peak Forward Current; D.C. = 50%	I_{FAV}	1000	mA	
Continuous Drain Current (Note x)	I_{FSM}	$t \leq 100\mu\text{s}$	6.75	A
		$t \leq 10\text{ms}$	3	A

Thermal Characteristics

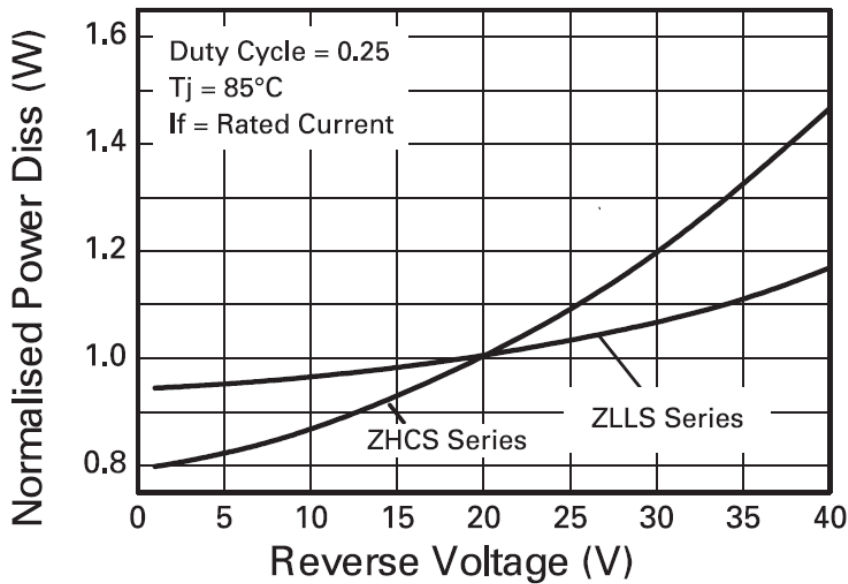
Characteristic	Symbol	Value	Unit
Power Dissipation, $T_A = 25^\circ\text{C}$	P_D	250	mW
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$



Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

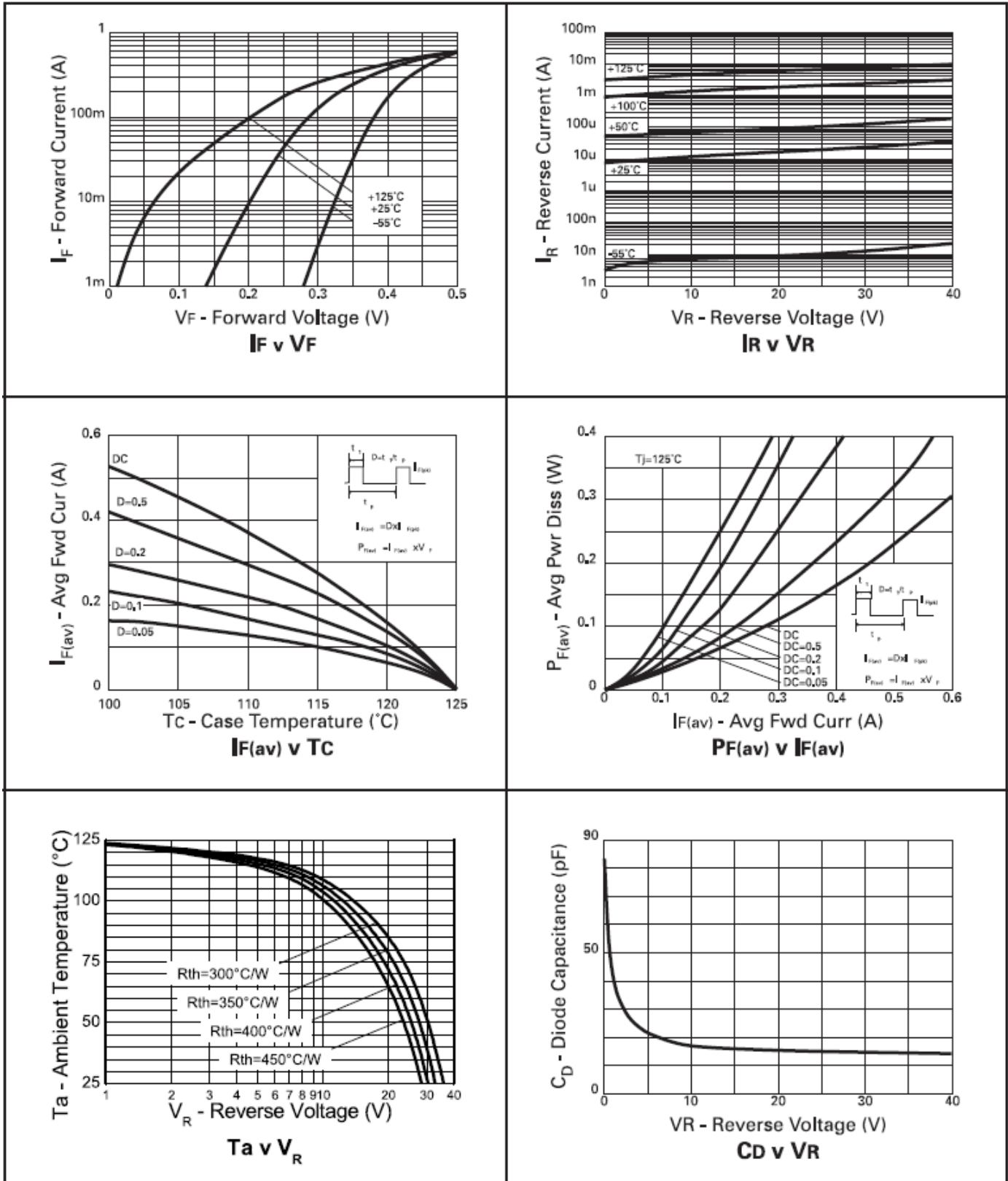
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	$V_{(BR)R}$	40	60	-	V	$I_R = 200\mu\text{A}$
Forward Voltage	V_F	-	270	300	mV	$I_F = 50\text{mA}$
		-	300	350		$I_F = 100\text{mA}$
		-	370	460		$I_F = 250\text{mA}$
		-	425	500		$I_F = 400\text{mA}$
		-	550	670		$I_F = 750\text{mA}$
		-	640	780		$I_F = 1,000\text{mA}$
		-	810	1050		$I_F = 1,500\text{mA}$
		-	440	-		$I_F = 500\text{mA}, T_A = 100^\circ\text{C}$
Reverse Current	I_R	-	15	40	μA	$V_R = 30\text{V}$
Diode Capacitance	C_D	-	20	-	pF	$f = 1\text{MHz}, V_R = 25\text{V}$

Operational efficiency chart

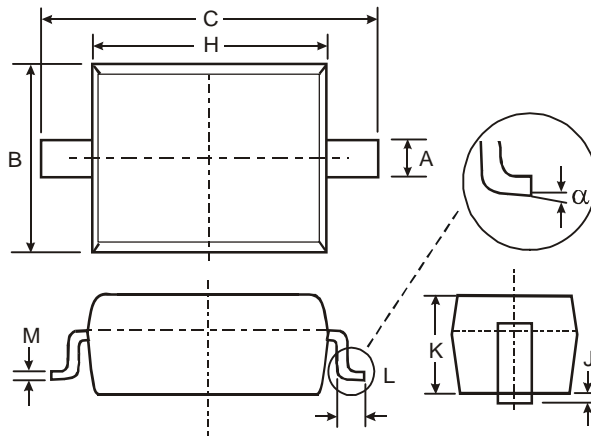


Operational Efficiency Example

The operational efficiency chart indicates the beneficial use of the ZLLS series diodes in applications requiring higher voltage, higher temperature operation. Circuits requiring low voltage low temperature operation will benefit from using Zetex low V_F ZHCS series diodes.

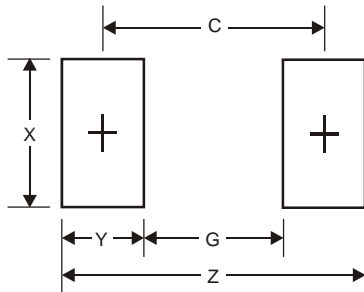


Package Outline Dimensions



SOD323		
Dim	Min	Max
A	0.25	0.35
B	1.20	1.40
C	2.30	2.70
H	1.60	1.80
J	0.00	0.10
K	1.0	1.1
L	0.20	0.40
M	0.10	0.15
α	0°	8°
All Dimensions in mm		

Suggested Pad Layout



Dimensions	Value (in mm)
Z	3.75
G	1.05
X	0.65
Y	1.35
C	2.40

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